

IN THE CLAIMS

34. (CURRENTLY AMENDED) A split-gate flash memory cell structure having a trench isolation devoid of the "smiling" effect comprising:

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a substrate;

a first oxide layer atop said substrate serving as a gate oxide ;

a floating gate atop said first oxide layer;

a trench formed as a single continuous opening through said floating gate and said first oxide layers and into said substrate, wherein said single continuous opened surfaces of said floating gate, said first oxide layer and said substrate form interior trench walls;

a first conformal layer lining said interior trench walls, said first conformal layer being in contact with and extending over said continuous surfaces of said floating gate, said first oxide and said substrate;

a second conformal layer lining said interior trench walls, said second conformal layer being in contact with said first conformal layer and extending over said continuous surfaces of said floating gate, said first oxide and said substrate;

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an isolation oxide filling said trench, wherein said isolation oxide is devoid of said "smiling" effect in proximity to said floating gate;

a second oxide layer atop said floating gate;

a third oxide layer atop said floating gate and said trench;

a control gate atop said third oxide layer.

35. (CURRENTLY AMENDED) The split-gate flash memory cell structure of claim 34, wherein said first conformal lining comprises oxide have a thickness between about 200 to 500 Å.

36. (CURRENTLY AMENDED) The split-gate flash memory cell structure of claim 34, wherein said second conformal lining comprises nitride have a thickness between about 100 to 300 Å.